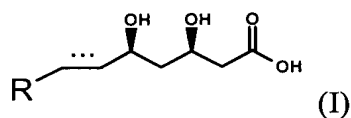


AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

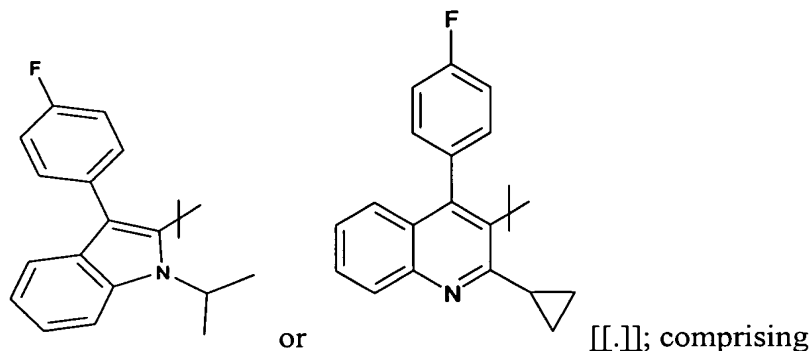
Claim 1 (Currently Amended) A process for the manufacture of an enantiomerically pure form or a racemic form of a compound of formula



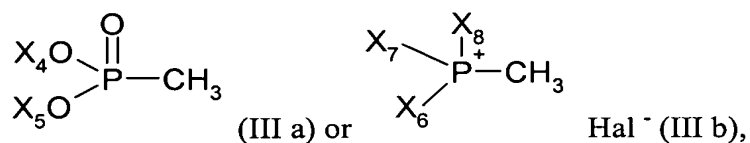
or a salt, ~~especially a pharmaceutically acceptable salt with a base, thereof,~~ or a lactone

thereof, wherein the element ----- represents $-\text{CH}=\text{CH}-$, and

R represents the cyclic residue of formula



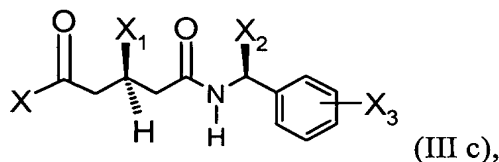
(a) reacting a compounds of formula (IIIa) or (IIIb)



wherein X_4 and X_5 , independently of one another, represents C_1 - C_7 -alkyl or phenyl- C_1 - C_7 -alkyl;

X_6 , X_7 and X_8 , independently of one another, represent phenyl that is unsubstituted or substituted by one or more substituents selected from the group consisting of C_1 - C_7 alkyl, hydroxy, C_1 - C_7 alkoxy, C_2 - C_8 alkanoyl-oxy, halogen, nitro, cyano, and CF_3 ; and Hal^- represents a halide anion;

with a metallated alkane to form the corresponding ylide and then reacting the resulting ylide intermediate with a compound of formula



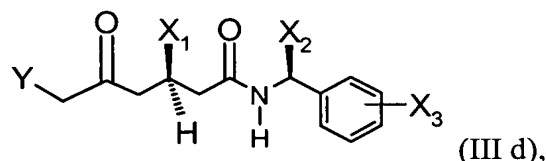
wherein

X represents etherified hydroxy, esterified hydroxy, or unsubstituted or mono- or di-substituted amino;

X_1 is protected hydroxy;

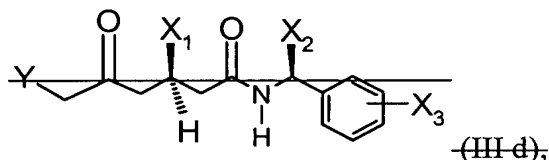
X_2 represents C_1 - C_7 alkyl; and

X_3 represents hydrogen or one or more substituents, ~~e.g.~~ selected from the group consisting of C_1 - C_7 alkyl, hydroxy, C_1 - C_7 alkoxy, C_2 - C_8 alkanoyl-oxy, halogen, nitro, cyano, and CF_3 [[;]], resulting in a compound of formula (III d)



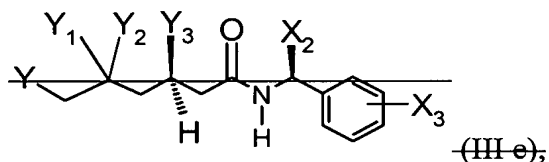
wherein X_1 , X_2 and X_3 have the meanings as defined above, Y represents a group of formula $(X_4O)(X_5O)P(=O)-$ or $(X_6)(X_7)(X_8)P^+ Hal^-$, and X_4 , X_5 , X_6 , X_7 , X_8 and Hal^- have the meanings as defined above;

(b) ~~optionally, if desired, converting a resulting compound of formula (III d)~~



~~wherein X_1 , X_2 and X_3 have the meanings as defined above and Y represents a group of formula $(X_4O)(X_5O)P(=O)-$ or $(X_6)(X_7)(X_8)P^+ Hal^-$ and X_4 , X_5 , X_6 , X_7 , X_8 and Hal^- have the meanings as defined above;~~

~~into a compound of formula (III e)~~



~~wherein X_2 , X_3 and Y, have the meaning as defined above and wherein~~

~~Y_1 represents hydroxy or protected hydroxy and Y_2 is hydrogen and Y_3 is hydroxy or protected hydroxy, and Y_1 and Y_3 forming a syn-diol configuration; or wherein~~

~~Y_1 and Y_3 together represent $O-Alk-O$ and Alk being C_1-C_7 alkylidene; and Y_2 is hydrogen, and Y_1 and Y_3 forming a syn-diol configuration;~~

(c) reacting a compound of formula (III [[e]]d)

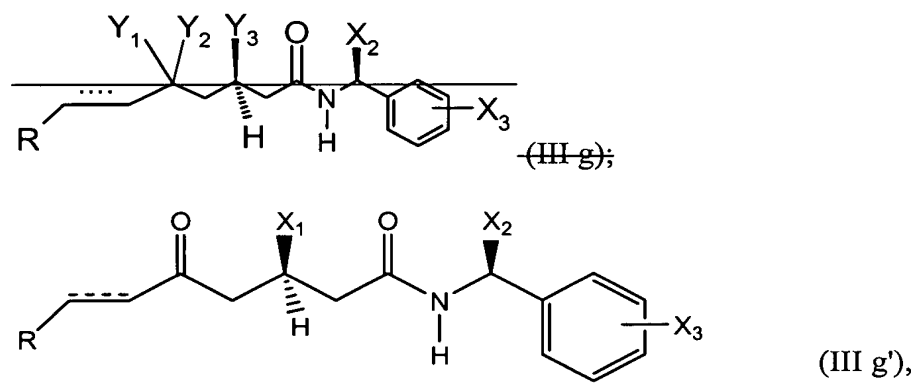
~~wherein X_2 , X_3 and Y, have the meaning as defined above and wherein~~

~~Y_1 represents hydroxy or protected hydroxy and Y_2 is hydrogen and Y_3 is hydroxy or protected hydroxy, and Y_1 and Y_3 forming a syn-diol configuration; or wherein~~

~~Y₁ and Y₃ together represent O-Alk-O and Alk being C₄-C₇alkylidene; and Y₂ is hydrogen, and Y₁ and Y₃ forming a syn-diol configuration; or wherein~~

~~Y₁ and Y₂ together represent the oxo-group and Y₃ represents protected hydroxyl (corresponding to compounds of formula (II d);~~

with an aldehyde of formula (III f) R-CH(=O) resulting in a compound of formula (III g')



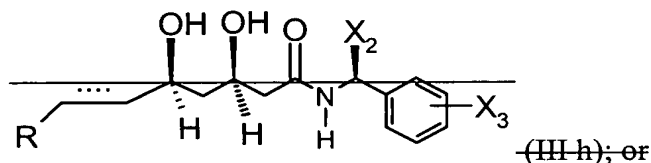
wherein R, X₁, X₂, X₃, ~~Y₁~~, ~~Y₂~~ and ~~Y₃~~ and the element \cdots have the meanings as defined above;

if desired, reducing corresponding compounds of formula (III g), wherein the element \cdots is ~~CH=CH~~ to result in a compound wherein said element is ~~CH₂-CH₂~~;

and

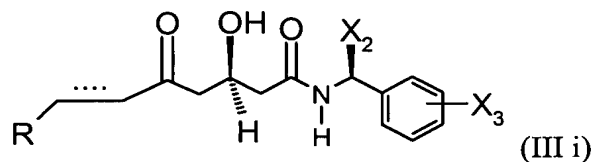
(d) ~~if a compound of formula (III g) is obtained, wherein one of Y₁ and Y₃ is protected hydroxy and the other is hydroxy or both of Y₁ and Y₃ is protected hydroxy and, in each case Y₂ is hydrogen; and Y₁ and Y₃ are forming the syn configuration; or~~

~~Y₁ and Y₃ together represent O-Alk-O and Alk being C₄-C₇alkylidene and Y₁ and Y₃ are forming the syn configuration; and Y₂ is hydrogen; or by removing the hydroxy protection group(s) to a compound of formula~~



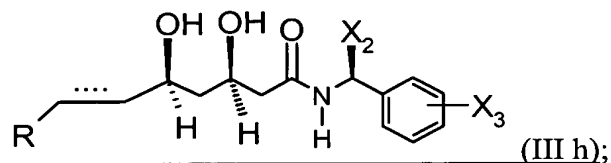
if desired, reducing corresponding compounds of formula (III h), wherein the element is ~~CH=CH~~ to result in a compound wherein said element is ~~CH₂-CH₂~~;

(e) if a compound of formula (III g) is obtained, wherein Y₁ and Y₂ together form the oxo group =O; and Y₃ is protected hydroxy (X₁); converting said a compound of formula (III-g g'), to a compound of formula (III i)



by removing the hydroxy protection group;

wherein R, X₂, X₃ and the element have the meanings as defined above; and subsequent reduction of said compound of formula (III i) to a compound of formula (III h)



wherein R, X₂, X₃ and the element have the meanings as defined above;

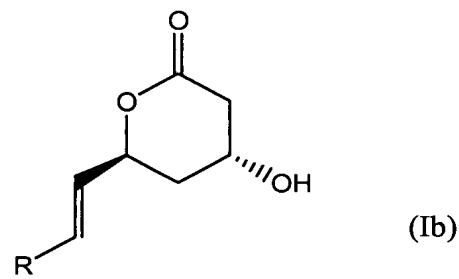
(f) hydrolyzing a compound of formula (III h) to a compound of formula (I) or a salt thereof; and

(g) isolating a resulting compound of formula (I) or a salt thereof; and

(h) optionally one of

(1) and, if desired, converting a resulting free acid of formula (I) into a salt thereof;

(2) converting a resulting free acid of formula (I) ~~or~~ into a lactone of formula (I-a) ~~or~~ (I b), respectively,



wherein R has the meaning as defined above;

(3) converting a resulting free acid of formula (I) into a lactone of formula (I b) as defined above, and ~~or~~ converting a resulting lactone of a formula (I-a) ~~or~~ (I b) into an acid of formula (I) or a salt thereof.

Claim 2 (Canceled).

Claim 3 (Currently Amended) A process according to claim 1, wherein a ~~compound selected from the group consisting of a compound of~~ in formulae (III c), (III d), (III e), (III g g'), (III h), and (III i) ~~is used, wherein, in each case, X₂ is methyl and X₃ is hydrogen.~~

Claim 4 (Currently Amended) A process according to claim 1, wherein a ~~compound of~~ in formula (III c) ~~is used, wherein X is N-C₁-C₇alkyl-N-C₁-C₇alkoxy-amino.~~

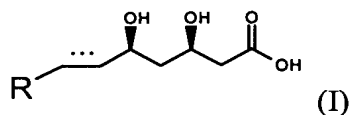
Claim 5 (Currently Amended) A process according to claim 1, wherein a ~~compound selected from the group consisting of a compound of~~ in formulae (III c) and (III d) ~~is used, wherein X₁ is tert-butyl-dimethyl-silyloxy, and from the group consisting of a~~

~~compound of in~~ formulae (III e), (III g g') and (III h), ~~is used, wherein~~ Y₃ is tert-butyl-dimethyl-silyloxy.

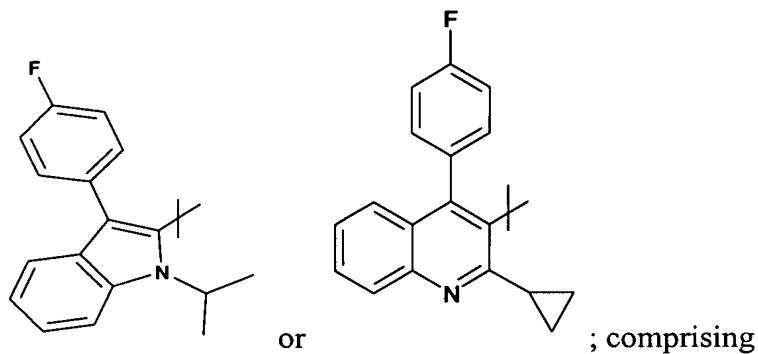
Claims 6 through 8 (Canceled).

Claim 9 (New) A process according to claim 1, wherein the salt is a pharmaceutically acceptable salt with a base.

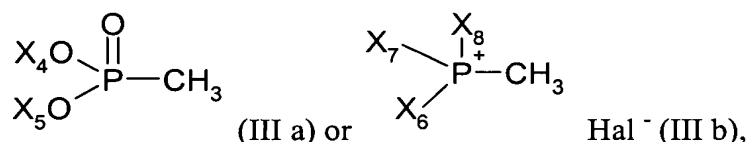
Claim 10 (New) A process for the manufacture of an enantiomerically pure form or a racemic form of a compound of formula



or a salt thereof, or a lactone thereof, wherein the element ----- represents $-\text{CH}=\text{CH}-$, and R represents the cyclic residue of formula



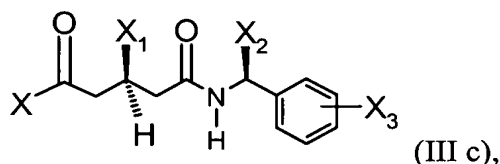
(a) reacting a compound of formula (IIIa) or (IIIb)



wherein X₄ and X₅, independently of one another, represents C₁-C₇-alkyl or phenyl-C₁-C₇-alkyl;

X₆, X₇ and X₈, independently of one another, represent phenyl that is unsubstituted or substituted by one or more substituents selected from the group consisting of C₁-C₇alkyl, hydroxy, C₁-C₇alkoxy, C₂-C₈alkanoyl-oxy, halogen, nitro, cyano, and CF₃; and Hal⁻ represents a halide anion;

with a metallated alkane to form the corresponding ylide and then reacting the resulting ylide intermediate with a compound of formula



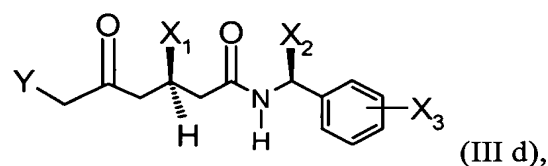
wherein

X represents etherified hydroxy, esterified hydroxy, or unsubstituted or mono- or di-substituted amino;

X₁ is protected hydroxy;

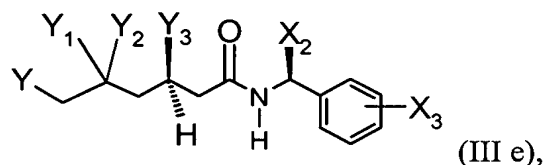
X₂ represents C₁-C₇alkyl; and

X₃ represents hydrogen or one or more substituents selected from the group consisting of C₁-C₇alkyl, hydroxy, C₁-C₇alkoxy, C₂-C₈alkanoyl-oxy, halogen, nitro, cyano, and CF₃, resulting in a compound of formula (III d)



wherein X_1 , X_2 and X_3 have the meanings as defined above, Y represents a group of formula $(X_4O)(X_5O)P(=O)-$ or $(X_6)(X_7)(X_8)P^+ Hal^-$, and X_4 , X_5 , X_6 , X_7 , X_8 and Hal^- have the meanings as defined above;

(b) converting a resulting compound of formula (III d) into a compound of formula (III e)

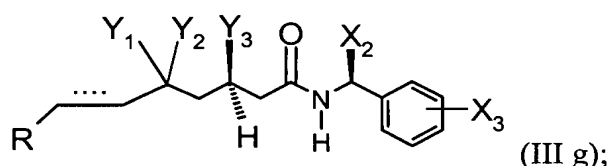


wherein X_2 , X_3 and Y, have the meaning as defined above and wherein

Y_1 represents hydroxy or protected hydroxy, Y_2 is hydrogen, Y_3 is hydroxy or protected hydroxy, and Y_1 and Y_3 form a syn-diol configuration; or wherein

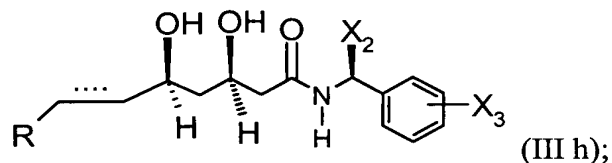
Y_1 and Y_3 together represent $-O-Alk-O-$, Alk being C_1-C_7 alkylidene; Y_2 is hydrogen, and Y_1 and Y_3 form a syn-diol configuration;

(c) reacting a compound of formula (III e) with an aldehyde of formula (III f) $R-CH(=O)$ resulting in a compound of formula (III g)



wherein R, X_2 , X_3 , Y_1 , Y_2 and Y_3 and the element \cdots have the meanings as defined above;

(d) converting a compound of formula (III g), to a compound of formula (III h), by removing the hydroxy protection group(s)



wherein R, X₂, X₃ and the element have the meanings as defined above;

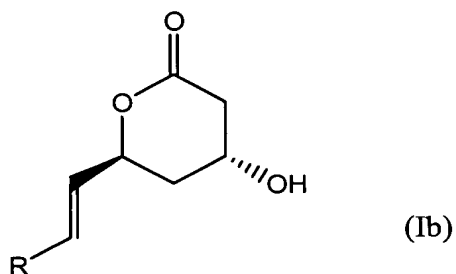
(f) hydrolyzing a compound of formula (III h) to a compound of formula (I) or a salt thereof,

(g) isolating a resulting compound of formula (I) or a salt thereof; and

(h) optionally one of

(1) converting a resulting free acid of formula (I) into a salt thereof;

(2) converting a resulting free acid of formula (I) into a lactone of formula (I b)



wherein R has the meaning as defined above;

(3) converting a resulting free acid of formula (I) into a lactone of formula (I b) as defined above, and converting a resulting lactone of formula (I b) into an acid of formula (I) or a salt thereof.

Claim 11 (New) A process according to claim 10, wherein in formulae (III c), (III d), (III e), (III g) and (III h), X₂ is methyl and X₃ is hydrogen.

Claim 12 (New) A process according to claim 10, wherein in formula (III c), X is N-C₁-C₇alkyl-N-C₁-C₇alkoxy-amino.

Claim 13 (New) A process according to claim 10, wherein in formulae (III c) and (III d), X₁ is tert-butyl-dimethyl-silyloxy, and in formulae (III e), (III g) and (III h), Y₃ is tert-butyl-dimethyl-silyloxy.

Claim 14 (New) A process according to claim 10, wherein the salt is a pharmaceutically acceptable salt with a base.